Doctoral Scientists and Engineers: 1999 Profiles

Detailed Statistical Tables

Division of Science Resources Statistics
Directorate for Social, Behavioral, and Economic Sciences

National Science Foundation

November 2002

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Doctoral Scientists and Engineers: 1999 Profile Tables

In continuing the series of reporting on the demographic and employment profile of doctorate-level scientists and engineers in the United States, this set of profile tables was produced to complement the data tables in the *Characteristics of Doctoral Scientists and Engineers: 1999* report from the Survey of Doctorate Recipients (SDR). SDR is a longitudinal panel survey of individuals who have received their doctorates mainly in the sciences or engineering fields.

Unlike the general employment and demographic characteristics presented in the *Characteristics* report series, these profile tables focus on the survey data, which provide more detailed profiles of the employed doctoral scientists and engineers. These profiles include reasons for making certain choices in employment situations, work-related activities, and special-module data collected in 1999, such as recent doctoral recipients' experiences in finding first career-path job and evaluation of doctoral training.

The 1999 SDR is the 14th in a series of surveys initiated in 1973 in response to the needs of the Federal Government for demographic and employment information on scientists and engineers trained at the doctoral level. This 1999 survey was sponsored by the National Science Foundation and the National Institutes of Health. The purpose of the SDR, since its inception, has been to estimate the number of people holding research doctorates from U.S. institutions in science and engineering and residing in the United States and to characterize their demographic and employment patterns.

The sampling frame for the SDR is the Doctorate Records File (DRF), a census of all research doctorates earned in the United States since 1920. The SDR sample for 1999 was 40,000. The data in these tables focus on those doctorates who earned their degrees in science or engineering fields from U.S. institutions prior to June 1998 and who were age 75 or younger and residing in the United States in April 1999. The estimated size of this population is 626,700.

For more information on the survey methodology, see Section II of the *Characteristics of Doctoral Scientists and Engineers:1999* report. For further information, please contact:

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Table 1. Distribution of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Field of doctorate	Number	Percent
Total	626,700	100
Sciences	519,496	83
Computer and mathematical sciences	38,400	6
Computer/information sciences	9,700	2
Mathematical sciences	28,700	5
Biological and agricultural sciences	153,000	24
Agricultural/food sciences	19,300	3
Biological sciences	128,100	20
Environmental life sciences	5,700	1
Health sciences	21,400	3
Physical and related sciences	128,400	20
Chemistry except biochemistry	66,700	11
Earth/atmosperic/ocean sciences	18,400	3
Physics and astronomy	43,300	7
Social sciences	85,100	14
Economics	24,300	4
Political and related sciences	18,600	3
Sociology	15,600	2
Other social sciences	26,600	4
Psychology	93,100	15
Engineering	107,202	17
Aerospace/aeronautical engineering	4,700	1
Chemical engineering	14,800	2
Civil engineering	9,400	2
Electrical/computer engineering	28,500	5
Materials/metallurgical engineering	11,200	2
Mechanical engineering	14,000	2
Other engineering	24,500	4

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 2. Demographic characteristics of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Demographic characteristic	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	626,700	9,700	28,700	153,000	21,400	128,400	85,100	93,100	107,200
					Percent				
Year of doctorate									
Pre-1960	4	S	4	4	S	7	3	3	3
1960-69	14	S	19	13	5	19	12	10	15
1970-79	25	S	31	25	18	25	31	26	22
1980-84	13	10	10	14	14	11	14	17	10
1985-89	14	22	10	14	16	13	13	16	14
1990-92	10	20	8	9	15	9	8	10	11
1993-94	7	15	7	7	10	6	7	7	8
1995-96	8	17	6	8	11	6	7	7	10
1997-98	6	11	5	6	9	5	5	5	7
Sex									
Male	76	83	86	73	46	87	71	54	93
Female	24	17	14	27	54	13	29	46	7
Race/ethnicity									
White[1]	81	67	80	83	82	82	85	91	67
Black	2	S	S	2	5	1	4	3	1
Asian/Pacific Islander	14	29	16	12	9	15	8	2	29
Hispanic	2	S	S	2	S	2	3	3	2
American Indian/Alaskan Native	--	S	S	S	S	S	S	S	S
Age									
Under 35	9	15	10	10	6	9	5	7	13
35-39	13	28	11	14	9	14	9	10	17
40-44	14	24	12	16	12	14	12	14	15
45-49	15	19	12	16	20	12	16	19	12
50-54	15	10	15	14	22	13	18	20	11
55-59	14	S	19	12	16	15	17	13	13
60-64	9	S	10	7	7	10	10	7	10
65-75	11	S	11	11	8	13	14	10	9
Citizenship status									
U.S. citizen	90	73	86	91	93	90	92	98	81
Non-U.S. citizen	10	27	14	9	7	10	8	2	19
Permanent U.S. resident	77	78	73	75	75	79	82	80	75
Temporary U.S. resident	23	22	27	25	25	21	18	20	25

[1] 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 1,000.

S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 3. Demographic characteristics of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Demographic characteristic	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total (number)	626,700	108,600	187,600	157,000	173,500
			Percent		
Sex					
Male	76	64	68	77	91
Female	24	36	32	23	9
Race/ethnicity					
White[1]	81	67	76	86	91
Black	2	3	3	2	1
Asian/Pacific Islander	14	26	17	10	7
Hispanic	2	3	3	2	1
American Indian/Alaskan Native	--	S	S	S	S
Citizenship status					
U.S. citizen	90	71	86	98	99
Non-U.S. citizen	10	29	14	2	1

[1] 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 1,000.
S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 4. Employment status of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employment status	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	626,700	38,400	153,000	21,400	128,400	85,100	93,100	107,200
	Percent							
Employed full-time[1]	82	86	83	83	81	80	75	86
Employed part-time[1]	7	5	5	7	5	7	15	3
Unemployed, seeking employment	1	S	1	S	1	S	S	1
Retired	9	7	9	7	11	10	6	8
Not employed, not seeking	2	S	3	S	2	2	3	1

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 5. Reasons for not working as reported by doctoral scientists and engineers, by age: 1999

September 2002

Reasons for not working	All ages	Under 65	65-75
Total not employed (number)	73,300	31,900	41,400
		Percent	
Retired	74	43	98
On layoff	5	10	S
Student	2	6	S
Family responsibilities	10	21	S
Ill or disabled	5	9	3
Suitable job not available	8	15	S
No need or desire to work	13	18	9
Other reason	4	7	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. and because multiple answers are allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 6. Reasons for working part-time as reported by doctoral scientists and engineers, by age: 1999

September 2002

Reason for working part-time	All ages	Under 65	65-75
Total employed part-time (number)	41,700	31,600	10,200
		Percent	
Retired or semi-retired	33	17	85
Student	2	3	S
Family responsibilities	28	37	S
Ill/disabled	4	5	S
Suitable full-time job not available	17	20	S
No need or desire for full-time work	43	45	38
Other reason	8	8	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding and because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 7. Employment status of doctoral scientists and engineers, by field of doctorate and sex: 1999

September 2002

Employment status and sex	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total in labor force (number)	559,900	35,100	135,900	19,600	111,900	75,100	85,200	97,100
	Percent							
Employed full-time[1]	91	94	93	91	93	91	82	95
Employed part-time[1]	7	5	6	8	6	8	17	4
Unemployed, seeking employment	1	S	1	S	1	S	S	1
Male (number)	424,400	30,000	98,800	8,800	97,600	52,600	46,100	90,600
	Percent							
Employed full-time[1]	94	95	95	94	93	92	89	95
Employed part-time[1]	5	4	4	S	5	7	10	4
Unemployed, seeking employment	1	S	S	S	1	S	S	1
Female (number)	135,500	5,100	37,100	10,700	14,300	22,600	39,100	6,500
	Percent							
Employed full-time[1]	84	88	88	88	91	86	74	90
Employed part-time[1]	14	S	10	11	S	12	25	S
Unemployed, seeking employment	1	S	S	S	S	S	S	S

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. because of rounding, and because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 8. Retired doctoral scientists and engineers, by field of doctorate and age: 1999

September 2002

Age	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total retired (number)	54,300	2,700	13,400	1,500	14,200	8,200	5,500	8,700
Age group	Percent							
Under 65	25	S	23	S	25	20	26	31
65-75	75	71	77	72	75	80	74	69

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 9. Employment sector of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employment sector	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	553,400	9,600	25,300	134,400	19,300	110,300	74,300	84,300	95,900
	Percent								
Education institution	46	39	62	56	58	37	66	40	28
Private industry	39	55	31	31	29	50	20	30	61
Government	9	S	5	11	8	10	9	10	8
Self-employed or other	5	S	S	3	S	2	5	19	3

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 10. Employer characteristics of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employer characteristic	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	553,400	34,900	134,400	19,300	110,300	74,300	84,300	95,900
	Percent							
Employer size								
Under 10 employees	10	5	7	9	7	8	28	8
10-24 employees	3	S	3	S	2	2	3	3
25-99 employees	4	4	4	S	5	4	4	5
100-499 employees	10	12	9	8	10	11	11	8
500-999 employees	5	5	4	S	5	6	6	4
1,000-4,999 employees	11	11	11	12	11	10	8	12
5,000 or more employees	57	61	62	61	59	59	39	60
Employer a new business within past 5 years?								
Yes	6	6	5	6	6	4	7	9
No	94	94	95	94	94	96	93	91

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 11. Relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Relationship between principal job and doctoral degree	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	553,400	9,600	25,300	134,400	19,300	110,300	74,300	84,300	95,900
	Percent								
Closely related	68	74	66	69	78	58	72	82	63
Somewhat related	24	23	25	23	18	31	20	15	30
Not related	8	S	9	7	S	11	7	4	8

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.
Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 12. Most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 1999

September 2002

Most important reason	All fields
Total reporting working outside doctoral degree field (number)	42,000
	Percent
Pay/promotion opportunities	24
Working conditions	4
Job location	5
Change in career or professional interest	30
Family-related reasons	6
Job in doctoral field not available	24
Other reason	7

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 13. Primary work activity of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Primary work activity	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed (number)	553,400	104,400	179,700	147,600	121,600
	Percent				
Applied research	20	25	23	18	16
Basic research	13	18	13	10	10
Development	6	7	6	5	5
Design	2	3	2	2	2
Teaching	21	18	20	21	27
Management, sales, and administration[1]	17	8	15	23	23
Computer applications	6	9	6	5	4
Professional services	12	10	13	15	11
Other activity[2]	2	2	2	2	3

[1] Category includes: accounting, finance, contracts; employee relations including recruiting, personnel, development, and training; managing, supervising; sales, purchasing, marketing, customer service, public relations; and quality or productivity management.

[2] Category includes: production operations, maintenance, and other activity.

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.
Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 14. Principal occupation of doctoral scientists and engineers, by employment sector: 1999

September 2002

Principal occupation	Employment sector							
	Total	University and 4-year college	Other educational institution	Private for-profit company	Self-employed	Private not-for-profit organization	Federal Government	State/local government
Total employed (number)	553,400	236,400	19,400	187,500	30,400	27,500	37,300	14,900
					Percent			
Science and engineering occupations	75	83	61	69	71	64	80	65
Computer and information scientists	6	3	S	12	S	S	3	S
Mathematical scientists	4	6	S	1	S	S	4	S
Life and related scientists	19	27	13	11	6	15	25	12
Physical and related scientists	14	14	13	14	4	8	22	9
Social and related scientists	8	14	8	2	4	6	7	S
Psychologists	12	9	19	6	49	23	6	29
Engineers	13	9	S	23	6	7	14	S
Non-science and engineering occupations	25	17	39	31	29	36	20	35
Top/mid-level managers, administrators, etc	12	6	13	19	6	19	13	21
Other non-S&E occupations	13	11	26	12	24	17	7	13

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 15. Principal occupation of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Principal occupation	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed (number)	553,400	104,400	179,700	147,600	121,600
	Percent				
Science and engineering occupations	75	83	78	71	70
Computer and information scientists	6	8	6	5	4
Mathematical scientists	4	3	4	3	4
Life and related scientists	19	22	20	18	16
Physical and related scientists	14	13	14	12	16
Social and related scientists	8	8	8	9	8
Psychologists	12	11	13	13	9
Engineers	13	18	14	10	13
Non-science and engineering occupations	25	17	22	29	30
Top/mid-level managers, administrators, etc	12	5	9	16	17
Other non-S&E occupations	13	13	13	13	12

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 16. Federal Government support status of employed science and engineering doctorates, by field of doctorate: 1999

September 2002

Support status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 1999 (number).....	553,400	9,600	25,300	134,400	19,300	110,300	74,300	84,300	95,900
Total employed in 1998 (number)....	547,800	9,500	24,900	133,300	19,000	109,500	73,700	83,400	94,500
	Percent								
Received government support.....	31	31	26	40	30	34	22	20	32
No government support.....	69	69	74	60	70	66	78	80	68

NOTES: Data are based on a question that asked whether any of the work during 1998 was supported by contracts or grants from the U.S. goverment.

Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 17. Federal Government support status of employed doctoral scientists and engineers, by employment sector: 1999

September 2002

Support status	Total	Employment sector						
		Universities and 4-year colleges	Other educational institutions	Private for-profit	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed in 1999 (number)	553,400	236,400	19,400	187,500	30,400	27,500	37,300	14,900
Total employed in 1998 (number)	547,800	234,500	19,200	184,900	29,900	27,300	37,100	14,800
					Percent			
Received government support	31	47	16	19	10	46	S	33
No government support	69	53	84	81	90	54	99	67

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Data are based on a question that asked whether any of the work during 1998 was supported by contracts or grants from the U.S. goverment.
Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.
Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 18. Federal agencies and departments supporting work of doctoral scientists and engineers: 1999

September 2002

Federal agency or department	All fields
Total receiving Federal Government support (number)	168,200
	Percent
Agency for International Development (AID)	1
Agriculture Department	8
Commerce Department	3
Defense Department (DoD)	20
Department of Education (includes NCES, OERI, FIPSE, FIRST)	3
Energy Department (DOE)	12
Environmental Protection Agency (EPA)	5
Health and Human Services Department (excluding NIH)	9
Interior Department	3
National Aeronautics and Space Administration (NASA)	9
National Institutes of Health (NIH)	31
National Science Foundation (NSF)	21
Transportation Department (DOT)	3
Other	5

NOTES: Data are based on questions that asked whether any of the work during 1998 was supported by contracts or grants from the U.S. government and the agencies or departments that supported the work. Percents are rounded to the whole number. Details may not add to total because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 19. Academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 1999

September 2002

Faculty rank	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	244,900	3,700	15,400	72,500	10,900	39,100	47,700	29,500	26,200
	Percent								
Professor.....	35	S	44	30	23	37	40	33	42
Associate professor.....	22	38	28	20	29	17	26	21	23
Assistant professor.....	19	31	17	18	30	16	19	21	17
Instructor, lecturer, adjunct faculty.....	6	S	S	7	S	6	7	7	5
Not applicable at institution.....	2	S	S	S	S	4	S	S	S
Not applicable for position.....	15	S	S	24	12	20	7	15	10

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 20. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 1999

September 2002

Sex and faculty rank	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed in academe (number)	244,900	47,100	78,100	61,200	58,500
	Percent				
Professor	35	S	11	55	75
Associate professor	22	4	39	26	12
Assistant professor	19	42	28	5	S
Instructor, lecturer, adjunct faculty	6	9	7	5	5
Not applicable at institution	2	S	2	2	S
Not applicable for position	15	42	13	8	5
Male (number)	179,700	28,100	51,500	47,300	52,700
	Percent				
Professor	41	S	12	58	76
Associate professor	22	4	41	25	11
Assistant professor	16	43	27	4	S
Instructor, lecturer, adjunct faculty	5	7	6	5	4
Not applicable at institution	2	S	2	S	S
Not applicable for position	14	43	12	7	5
Female (number)	65,200	19,000	26,600	13,900	5,800
	Percent				
Professor	19	S	9	43	60
Associate professor	23	S	34	31	16
Assistant professor	27	41	31	8	S
Instructor, lecturer, adjunct faculty	9	12	8	7	S
Not applicable at institution	2	S	S	S	S
Not applicable for position	21	39	16	10	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 21. Academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 1999

September 2002

Tenure status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number)	244,900	3,700	15,400	72,500	10,900	39,100	47,700	29,500	26,200
					Percent				
Tenured	52	52	70	43	43	49	63	48	58
On tenure track	16	30	13	15	25	14	16	14	16
Not on tenure track	11	S	8	14	13	10	7	13	9
No tenure system at institution	5	S	S	4	S	6	3	7	5
No tenure for position	17	S	7	24	14	21	11	19	12

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 22. Academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 1999

September 2002

Sex and tenure status	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed in academe (number)	244,900	47,100	78,100	61,200	58,500
	Percent				
Tenured	52	3	43	73	80
On tenure track	16	34	24	4	1
Not on tenure track	11	21	12	8	5
No tenure system at institution	5	4	5	5	4
No tenure for position	17	37	16	10	9
Male (number)	179,700	28,100	51,500	47,300	52,700
	Percent				
Tenured	57	S	46	75	82
On tenure track	14	37	25	3	S
Not on tenure track	9	19	10	7	5
No tenure system at institution	5	4	4	6	4
No tenure for position	15	36	14	9	9
Female (number)	65,200	19,000	26,600	13,900	5,800
	Percent				
Tenured	36	S	37	65	69
On tenure track	20	30	23	S	S
Not on tenure track	16	22	15	10	S
No tenure system at institution	5	S	5	S	S
No tenure for position	24	39	20	15	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Academe includes 2-year and 4-year colleges, universities, medical schools, and university-affiliated research institutes. Those on postdoctoral appointments are also included in this table, mostly under "not applicable for position". Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 23. Characteristics of doctoral scientists and engineers on postdoc, by selected field of doctorate: 1999

September 2002

Demographic characteristic	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number)	24,000	14,300	9,700
		Percent	
Years since doctorate			
5 years or less	83	81	85
6-10 years	16	18	12
11-15 years	S	S	S
More than 15 years	S	S	S
Sex			
Male	60	56	65
Female	40	44	35
Race/ethnicity			
White[1]	64	62	68
Black	S	S	S
Asian/Pacific Islander	28	32	23
Hispanic	4	S	S
American Indian/Alaskan Native	S	S	S
Age			
Under 35	52	48	57
35-44	41	45	35
45-75	7	S	S
Citizenship status			
U.S. citizen	67	66	67
Non-U.S. citizen	33	34	33
Employment sector			
Educational institution	78	79	76
Business/industry	11	11	10
Other	11	10	14

[1] 'Other' race included with 'White'.

KEY: -- = Percent < 0.5 and estimated weighted cases >= 1,000.

S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Race/ethnicity data are shown for all doctorate recipients, including temporary residents. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 24. Primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 1999

September 2002

Reason	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number)	24,000	14,300	9,700
		Percent	
Primary reason for holding postdoc			
Additional training in field	18	16	20
Training out of field	11	10	13
Work with specific person or place	20	20	21
No other employment available	16	15	18
Postdoc generally expected for career in this field	32	37	24
Other reason	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Postdoc is a temporary position awarded in academe, industry or government primarily for gaining additional education and training in research. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 25. Second job status of doctoral scientists and engineers, by employment sector of principal job: 1999

September 2002

Second job status and occupation	Employment sector of principal job							
	All sectors	Universities and 4-year colleges	Other educational institutions	Private for-profit	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed (number)	553,400	236,400	19,400	187,500	30,400	27,500	37,300	14,900
	Percent							
Held second job	13	15	29	8	16	20	9	25
No second job	87	85	71	92	84	80	91	75
Total holding second job (number)	73,700	36,500	5,600	14,100	4,900	5,600	3,200	3,800
Occupation of second job	Percent							
Science and engineering occupations	63	62	66	57	57	68	73	76
Computer and information scientists	5	4	S	8	S	S	S	S
Mathematical scientists	3	4	S	S	S	S	S	S
Life and related scientists	8	10	S	S	S	S	S	S
Physical and related scientists	6	6	S	8	S	S	S	S
Social and related scientists	10	12	S	S	S	S	S	S
Psychologists	23	17	34	15	33	44	S	54
Engineers	8	9	S	12	S	S	S	S
Non-science and engineering occupation	37	38	34	43	43	32	S	S
Top/mid-level managers, administrators, etc.	5	5	S	S	S	S	S	S
Other non-S&E occupations	32	33	30	37	37	28	S	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 26. Relationship of work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Relationship	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total holding second job (number)	73,700	3,300	13,200	3,900	9,000	12,800	22,500	9,200
	Percent							
Closely related	65	54	51	61	48	69	83	61
Somewhat related	20	31	25	29	22	20	11	22
Not related	15	S	23	S	29	12	6	17

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 27. Employment changes in doctoral scientists and engineers since 1997, by field of doctorate: 1999

September 2002

Employment change	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 1999 (number)	553,400	34,900	134,400	19,300	110,300	74,300	84,300	95,900
	Percent							
Not employed in 1997	4	4	5	S	4	4	3	4
No change since 1997	74	73	73	72	73	78	78	70
Change in employer and job	11	11	12	12	11	9	9	12
Change in employer only	5	7	5	6	5	5	5	7
Change in job only	6	5	6	7	7	6	5	7

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases)

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 28. Reasons for changing employer and/or job since 1997 for doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Reasons	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total changing employer and/or job (number)	123,300	8,100	30,400	4,700	25,000	13,900	16,300	25,000
	Percent							
Pay or promotion opportunities	59	56	62	56	57	59	59	58
Working conditions	32	29	33	34	29	33	38	28
Job location	24	24	26	24	25	21	27	22
Change in career	30	29	30	28	33	29	25	32
Family-related reasons	13	S	14	S	11	13	19	9
School-related reasons	13	14	15	S	11	10	15	12
Laid off or job terminated	17	19	16	S	20	16	16	17
Retired	4	S	S	S	4	S	S	6
Other reason	5	S	3	S	5	7	S	4

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding and because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 29. Professional society or association membership of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Number of memberships	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	626,700	9,700	28,700	153,000	21,400	128,400	85,100	93,100	107,200
	Percent								
None	19	27	25	19	10	20	20	16	21
One	21	20	24	17	15	26	15	23	25
Two	23	30	23	23	22	24	22	22	24
Three	16	12	15	16	20	15	19	18	15
Four or more	20	11	13	24	33	15	23	22	15

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.

Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 30. Work-related training activities of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Training areas and reasons for taking training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	626,700	38,400	153,000	21,400	128,400	85,100	93,100	107,200
	Percent							
Taken work-related training in the past year	55	45	54	70	48	50	71	54
Did not take work-related training	45	55	46	30	52	50	29	46
Total taking training (number)	341,700	17,200	82,000	15,000	61,600	42,600	65,700	57,700
	Percent							
Type of training:								
Management/supervisor training	25	19	27	27	31	25	16	30
Training in occupational field	80	79	78	87	76	75	92	79
General professional training	21	20	21	24	21	26	15	23
Other work-related training	9	9	10	7	9	10	6	9
Most important reasons for taking training:								
To change occupational field	3	S	3	S	3	3	2	2
Further skills in occupational field	69	71	72	72	66	71	65	69
Licensure/certification	7	S	4	10	3	3	24	2
Increase opportunities	4	S	4	S	5	3	S	6
Learn skills for new position	6	6	6	S	8	5	3	8
Required or expected by employer	8	10	9	S	12	8	3	10
Other reasons	3	S	3	S	3	6	2	3

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Details will not add to total for types of work-related training because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned research doctorate from U.S. institutions and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 31. Most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate: 1999

September 2002

Resource and length of time	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients holding a career path job (number)	42,600	2,800	10,600	2,300	6,900	5,000	6,000	9,000
	Percent							
Most important job search resource:								
Faculty or advisor	25	S	27	S	27	24	S	25
Informal channels through colleagues or friends	26	S	24	S	25	25	31	24
Professional meetings and/or journals	15	S	16	S	15	21	S	12
Other resource [1]	35	41	32	S	33	30	37	39
Length of time between completion of first doctoral degree and first career path job:								
Less than 1 month [2]	72	79	70	72	71	73	67	75
1-6 months	19	S	21	S	18	S	22	18
7-12 months	6	S	S	S	S	S	S	S
More than 12 months	4	S	S	S	S	S	S	S

[1] 'Other resource' includes professional recruiter, college/department placement office, electronic postings, newspapers, direct contact with company, and other.

[2] Includes those who already held a career path job before completion of doctoral degree.

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1996 and 1998. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 32. Factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 1999

September 2002

Factors limiting career path job search	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients seeking or holding a career path job (number)	42,600	2,800	10,600	2,300	6,900	5,000	6,000	9,000
	Percent							
Factors that somewhat or greatly limited career path job search:								
Family responsibilities	39	39	44	S	39	31	38	37
Spouse's career or employment	37	39	42	S	35	37	35	34
Debt from undergraduate or graduate degree(s)	17	S	19	S	S	S	30	13
Desire to not relocate	37	43	35	S	32	38	47	35
Suitable job not available	36	S	35	S	43	44	37	33
Other	5	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1996 and 1998. 'Career path job' is defined as a job that helps further one's career plans or a job in a field where one wants to make a career. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding and because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 33. Areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 1999

September 2002

Areas of doctoral training	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	50,300	1,600	1,900	12,900	2,600	8,300	5,900	6,600	10,500
	Percent								
General problem solving skills	97	97	99	97	95	99	93	95	99
Subject matter knowledge	97	98	93	97	97	96	93	97	97
Oral communication skills	91	91	88	95	92	90	85	93	88
Teaching skills	72	68	82	68	74	72	76	76	71
Collaboration and teamwork skills	83	77	81	87	87	85	69	89	83
Quantitative skills	92	94	92	93	93	96	80	92	97
Writing skills	93	92	81	91	97	91	93	97	94
Computer skills	88	96	87	86	88	91	81	77	95
Research integrity/ethics	94	88	90	94	97	95	95	97	94
Establishing contacts with colleagues in field	78	75	71	79	88	76	79	77	77
Management or administrative skills	44	S	S	45	57	43	39	49	46

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1996 and 1998. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding and because multiple answers were allowed. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 34. First area of the doctoral program in which recent doctoral recipients would have liked more training, by field of doctorate: 1999

September 2002

Doctoral program area	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	50,300	3,600	12,900	2,600	8,300	5,900	6,600	10,500
Additional training desired (number)	41,100	2,500	10,800	2,300	6,800	4,800	5,500	8,400
	Percent							
General problem solving skills	4	S	S	S	S	S	S	S
Subject matter knowledge	8	S	S	S	S	S	S	S
Oral communication skills	9	S	S	S	S	S	S	S
Teaching skills	15	S	16	S	S	23	19	S
Collaboration and teamwork skills	7	S	S	S	S	S	S	S
Quantitative skills	5	S	S	S	S	S	S	S
Writing skills	7	S	S	S	S	S	S	S
Computer skills	10	S	13	S	S	S	S	S
Research integrity/ethics	S	S	S	S	S	S	S	S
Establishing contacts with colleagues in field	16	S	13	S	19	S	S	17
Management or administrative skills	17	S	17	S	15	S	20	25

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1996 and 1998.
Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to total because of rounding.
Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 35. Overall satisfaction with the doctoral program by recent doctoral recipients, by field of doctorate: 1999

September 2002

Level of overall satisfaction with doctoral program	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number).....	50,300	1,600	1,900	12,900	2,600	8,300	5,900	6,600	10,500
	Percent								
Very satisfied.....	62	S	66	60	66	61	56	62	67
Somewhat satisfied.....	32	S	S	33	S	33	35	32	30
Very/somewhat dissatisfied.....	S	S	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: 'Recent doctoral recipients' are those who reported having received their doctorate between July of 1996 and 1998. Numbers are rounded to nearest hundred. Percents are rounded to the whole number. Details may not add to totals because of rounding. Survey of Doctorate Recipients includes persons who had earned a research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

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Table 1a. Standard errors on distribution of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Field of doctorate	Number	Percent
Total	732.2	N/A
Sciences	695.6	0.0
Computer and mathematical sciences	242.3	0.0
Computer/information sciences	126.8	0.0
Mathematical sciences	235.9	0.0
Biological and agricultural sciences	390.5	0.1
Agricultural/food sciences	374.5	0.1
Biological sciences	275.1	0.0
Environmental life sciences	285.7	0.0
Health sciences	110.7	0.0
Physical and related sciences	341.3	0.0
Chemistry except biochemistry	221.5	0.0
Earth/atmosperic/ocean sciences	138.0	0.0
Physics and astronomy	209.3	0.0
Social sciences	440.6	0.1
Economics	334.3	0.1
Political and related sciences	513.8	0.1
Sociology	317.3	0.1
Other social sciences	614.1	0.1
Psychology	209.1	0.0
Engineering	323.6	0.0
Aerospace/aeronautical engineering	326.0	0.1
Chemical engineering	528.2	0.1
Civil engineering	488.9	0.1
Electrical/computer engineering	283.3	0.0
Materials/metallurgical engineering	485.2	0.1
Mechanical engineering	564.3	0.1
Other engineering	659.8	0.1

KEY: N/A= Not applicable

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 2a. Standard errors on demographic characteristics of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Demographic characteristic	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	732.2	126.8	235.9	390.5	110.7	341.3	440.6	209.1	323.6
					Percent				
Year of doctorate									
Pre-1960	0.1	S	0.5	0.2	S	0.3	0.2	0.2	0.2
1960-69	0.1	S	0.6	0.3	0.5	0.3	0.4	0.3	0.3
1970-79	0.1	S	0.8	0.3	0.7	0.3	0.5	0.4	0.3
1980-84	0.1	0.9	0.5	0.2	0.5	0.2	0.4	0.3	0.3
1985-89	0.1	1.1	0.6	0.2	0.7	0.2	0.4	0.3	0.3
1990-92	0.1	1.2	0.5	0.2	0.6	0.2	0.3	0.3	0.2
1993-94	0.1	1.0	0.4	0.2	0.6	0.2	0.3	0.3	0.2
1995-96	0.1	1.4	0.5	0.2	0.7	0.2	0.3	0.3	0.3
1997-98	0.1	1.2	0.4	0.2	0.6	0.2	0.2	0.2	0.3
Sex									
Male	0.1	0.5	0.3	0.1	0.3	0.1	0.2	0.2	0.1
Female	0.1	0.5	0.3	0.1	0.3	0.1	0.2	0.2	0.1
Race/ethnicity									
White[1]	0.1	1.2	0.8	0.3	0.7	0.3	0.4	0.3	0.4
Black	0.1	S	S	0.1	0.4	0.1	0.2	0.1	0.1
Asian/Pacific Islander	0.1	1.4	0.7	0.3	0.6	0.3	0.3	0.2	0.5
Hispanic	0.1	S	S	0.1	S	0.1	0.2	0.2	0.2
American Indian/Alaskan Native	--	S	S	S	S	S	S	S	S
Age									
Under 35	0.1	1.5	0.8	0.2	0.6	0.3	0.3	0.3	0.4
35-39	0.2	1.9	0.8	0.3	0.8	0.4	0.4	0.4	0.5
40-44	0.2	1.9	0.8	0.4	0.9	0.4	0.5	0.4	0.4
45-49	0.2	1.6	0.8	0.4	1.1	0.4	0.6	0.5	0.4
50-54	0.2	1.5	0.9	0.3	1.3	0.4	0.7	0.5	0.4
55-59	0.2	S	0.9	0.3	1.2	0.4	0.6	0.5	0.5
60-64	0.2	S	0.8	0.3	0.7	0.4	0.5	0.4	0.5
65-75	0.1	S	0.8	0.3	0.7	0.4	0.5	0.3	0.4
Citizenship status									
U.S. citizen	0.1	1.2	0.6	0.2	0.4	0.3	0.3	0.1	0.4
Non-U.S. citizen	0.1	1.2	0.6	0.2	0.4	0.3	0.3	0.1	0.4
Permanent U.S. resident	0.7	3.2	3.1	1.8	4.2	1.6	2.1	4.2	1.3
Temporary U.S. resident	0.7	3.2	3.1	1.8	4.2	1.6	2.1	4.2	1.3

[1] 'Other' race included with 'White.'

KEY: -- = Estimate is less than 0.5 percent and estimated weighted cases >=1,000.

S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 3a. Standard errors on demographic characteristics of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Demographic characteristic	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total (number)	732.2	391.3	618.0	512.5	482.0
			Percent		
Sex					
Male	0.1	0.3	0.2	0.2	0.1
Female	0.1	0.3	0.2	0.2	0.1
Race/ethnicity					
White[1]	0.1	0.5	0.3	0.3	0.3
Black	0.1	0.2	0.1	0.1	0.1
Asian/Pacific Islander	0.1	0.4	0.3	0.3	0.2
Hispanic	0.1	0.2	0.2	0.1	0.1
American Indian/Alaskan Native	--	S	S	S	S
Citizenship status					
U.S. citizen	0.1	0.3	0.2	0.2	0.1
Non-U.S. citizen	0.1	0.3	0.2	0.2	0.1

[1] 'Other' race included with 'White.'

KEY: -- = Estimate is less than 0.5 percent and estimated weighted cases >=1,000.
S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 4a. Standard errors on employment status of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employment status	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	732.2	242.3	390.5	110.7	341.3	440.6	209.1	323.6
	Percent							
Employed full-time [1]	0.2	0.8	0.4	1.1	0.4	0.6	0.6	0.5
Employed part-time [1]	0.1	0.5	0.3	0.8	0.3	0.4	0.5	0.3
Unemployed, seeking employment	0.1	S	0.1	S	0.1	S	S	0.2
Retired	0.2	0.6	0.3	0.7	0.3	0.5	0.3	0.4
Not employed, not seeking	0.1	S	0.2	S	0.2	0.2	0.2	0.2

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 5a. Standard errors on reasons for not working as reported by doctoral scientists and engineers, by age: 1999

September 2002

Reasons for not working	All ages	Age 64 and under	Age 65 and above
Total not employed (number)	1,174.3	861.0	791.5
		Percent	
Retired	0.8	1.3	0.4
On layoff	0.4	0.8	S
Student	0.3	0.6	S
Family responsibilities	0.5	1.0	S
Ill/disabled	0.4	0.7	0.4
Suitable job not available	0.5	1.0	S
No need or desire to work	0.6	1.1	0.7
Other reason	0.4	0.7	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 6a. Standard errors on reasons for working part-time as reported by doctoral scientists and engineers, by age: 1999

September 2002

Reason for working part-time	All ages	Age 64 and under	Age 65 and above
Total employed part-time (number)	898.5	790.6	510.2
		Percent	
Retired or semi-retired	1.2	1.1	1.8
Student	0.3	0.4	S
Family responsibilities	1.0	1.3	S
Ill/disabled	0.4	0.5	S
Suitable full-time job not available	0.8	1.0	S
No need or desire for full-time work	1.2	1.3	2.2
Other reason	0.6	0.7	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 7a. Standard errors on employment status of doctoral scientists and engineers, by field of doctorate and sex: 1999

September 2002

Labor force status and sex	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total in labor force (number)	1,330.9	340.4	616.3	197.6	556.3	584.8	389.1	601.0
	Percent							
Employed full-time[1]	0.2	0.6	0.3	0.9	0.4	0.5	0.6	0.3
Employed part-time[1]	0.2	0.6	0.3	0.8	0.3	0.5	0.6	0.3
Unemployed, seeking employment	0.1	S	0.1	S	0.2	S	S	0.2
Male (number)	1,167.7	312.8	544.6	133.3	516.4	538.5	296.3	579.2
	Percent							
Employed full-time[1]	0.2	0.6	0.4	1.1	0.4	0.5	0.6	0.3
Employed part-time[1]	0.2	0.6	S	0.9	0.3	0.5	0.6	0.3
Unemployed, seeking employment	S	S	S	0.7	0.2	S	S	0.2
Female (number)	672.8	115.2	378.1	151.8	215.5	254.5	294.4	147.7
	Percent							
Employed full-time[1]	0.5	2.0	0.7	1.4	1.0	0.9	1.1	1.7
Employed part-time[1]	0.4	S	0.6	1.3	S	0.9	1.1	S
Unemployed, seeking employment	0.1	S	S	S	S	S	S	S

[1] Includes those who held postdoctoral appointments.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 8a. Standard errors on retirement status of doctoral scientists and engineers, by field of doctorate and age: 1999

September 2002

Age	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
	Field of doctorate							
Total retired (number)	966.7	230.4	460.4	149.8	430.9	397.9	306.2	440.3
	Percent							
Age group								
Age 64 and below	0.8	S	1.7	S	1.8	2.4	2.9	2.8
Age 65 and above	0.8	4.3	1.7	5.4	1.8	2.4	2.9	2.8

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 9a. Standard errors on employment sector of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employment sector	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	1,333.5	135.7	337.1	635.2	220.3	588.4	603.2	422.7	618.4
					Percent				
Education institution	0.3	2.3	1.4	0.6	1.6	0.7	0.9	0.8	0.6
Private industry	0.3	2.1	1.3	0.6	1.4	0.7	0.8	0.8	0.7
Government	0.2	S	0.7	0.4	0.9	0.4	0.6	0.5	0.4
Self-employed or other	0.1	S	S	0.2	S	0.2	0.4	0.7	0.3

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 10a. Standard errors on employer characteristics of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Employer characteristic	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	1,333.5	345.9	635.2	220.3	588.4	603.2	422.7	618.4
	Percent							
Employer size								
Under 10 employees	0.2	0.6	0.3	0.9	0.4	0.5	0.7	0.4
10-24 employees	0.1	S	0.2	S	0.2	0.3	0.3	0.3
25-99 employees	0.1	0.5	0.3	S	0.3	0.4	0.3	0.3
100-499 employees	0.2	0.8	0.4	0.9	0.4	0.6	0.5	0.4
500-999 employees	0.1	0.6	0.3	S	0.3	0.4	0.4	0.3
1,000-4,999 employees	0.2	0.8	0.4	1.1	0.5	0.6	0.4	0.5
5,000 or more employees	0.3	1.2	0.6	1.5	0.7	0.9	0.8	0.6
Employer a new business within past 5 years?								
Yes	0.1	0.6	0.3	0.8	0.3	0.4	0.4	0.4
No	0.1	0.6	0.3	0.8	0.3	0.4	0.4	0.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 11a. Standard errors on relationship between work on principal job and doctoral degree as reported by doctoral scientists and engineers, by field of doctorate, 1999

September 2002

Relationship between principal job and doctoral degree	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed (number)	1,333.5	135.7	337.1	635.2	220.3	588.4	603.2	422.7	618.4
	Percent								
Closely related	0.3	2.0	1.4	0.6	1.3	0.7	0.8	0.6	0.8
Somewhat related	0.3	2.0	1.3	0.6	1.2	0.6	0.7	0.6	0.7
Not related	0.2	S	0.8	0.3	S	0.5	0.4	0.3	0.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 12a. Standard errors on most important reason for doctoral scientists and engineers to be working outside field of doctoral degree: 1999

September 2002

Most important reason	All fields
Total working outside doctoral degree field (number)	980.1
	Percent
Pay/promotion opportunities	1.0
Working conditions	0.4
Job location	0.5
Change in career or professional interest	1.1
Family-related reasons	0.6
Job in doctoral field not available	1.1
Other reason	0.6

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 13a. Standard errors on primary work activity of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Primary work activity	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed (number)	1,333.5	455.8	715.7	651.8	966.0
	Percent				
Applied research	0.3	0.6	0.5	0.5	0.6
Basic research	0.2	0.5	0.4	0.4	0.4
Development	0.1	0.4	0.2	0.3	0.3
Design	0.1	0.2	0.2	0.2	0.2
Teaching	0.3	0.5	0.4	0.5	0.7
Management, sales, and administration[1]	0.3	0.3	0.4	0.6	0.6
Computer applications	0.1	0.4	0.3	0.2	0.3
Professional services	0.2	0.4	0.3	0.4	0.4
Other activity[2]	0.1	0.2	0.2	0.2	0.3

[1] Category includes: accounting, finance, contracts; employee relations including recruiting, personnel, development, and training; managing, supervising; sales, purchasing, marketing, customer service, public relations; and quality or productivity management.

[2] Category includes: production operations, maintenance, and other activity.

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 14a. Standard errors on principal occupation of doctoral scientists and engineers, by employment sector: 1999

September 2002

Principal occupation	Employment sector							
	Total	University and 4-year college	Other educational institution	Private for-profit company	Self-employed	Private not-for-profit organization	U.S. government	State/local government
Total employed (number)	1,333.5	1,752.9	647.5	1,636.6	831.1	789.3	885.2	590.3
					Percent			
Science and engineering occupations	0.3	0.3	1.7	0.5	1.4	1.3	1.0	1.9
Computer and information scientist	0.1	0.2	S	0.3	S	S	0.4	S
Mathematical scientist	0.1	0.2	S	0.1	S	S	0.5	S
Life and related scientist	0.2	0.3	1.2	0.3	0.6	1.0	1.0	1.2
Physical and related scientist	0.2	0.3	1.0	0.4	0.5	0.7	1.0	1.1
Social and related scientist	0.1	0.3	0.9	0.2	0.5	0.7	0.6	S
Psychologist	0.1	0.3	1.3	0.3	1.3	1.3	0.6	1.7
Engineers	0.2	0.2	S	0.4	0.7	0.9	0.8	S
Non-science and engineering occupations	0.3	0.3	1.7	0.5	1.4	1.3	1.0	1.9
Top/mid-level managers, administrators, etc	0.2	0.2	1.3	0.5	0.7	1.2	0.8	1.5
Other non-S&E occupations	0.2	0.3	1.5	0.3	1.3	1.1	0.7	1.4

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 15a. Standard errors on principal occupation of doctoral scientists and engineers, by years since doctorate: 1999

September 2002

Principal occupation	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed (number)	1,333.5	455.8	715.7	651.8	966.0
	Percent				
Science and engineering occupations	0.3	0.5	0.4	0.6	0.6
Scientists					
Computer and information scientist	0.1	0.3	0.2	0.2	0.3
Mathematical scientist	0.1	0.2	0.2	0.2	0.2
Life and related scientist	0.2	0.4	0.3	0.4	0.4
Physical and related scientist	0.2	0.4	0.3	0.3	0.4
Social and related scientist	0.1	0.3	0.3	0.3	0.3
Psychologist	0.1	0.3	0.3	0.3	0.3
Engineers	0.2	0.4	0.3	0.4	0.5
Non-science and engineering occupations	0.3	0.5	0.4	0.6	0.6
Top/mid-level managers, administrators, etc	0.2	0.3	0.3	0.5	0.5
Other non-S&E occupations	0.2	0.4	0.3	0.4	0.5

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 16a. Standard errors on Federal Government support status of employed doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Support status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 1999 (number).....	1,333.5	135.7	337.1	635.2	220.3	588.4	603.2	422.7	618.4
Total employed in 1997 (number).....	1,358.4	140.1	333.4	635.4	227.2	593.1	620.7	443.7	639.1
					Percent				
Received government support.....	0.3	2.4	1.3	0.6	1.6	0.7	0.7	0.7	0.8
No government support.....	0.3	2.4	1.3	0.6	1.6	0.7	0.7	0.7	0.8

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 17a. Standard errors on Federal Government support status of employed doctoral scientists and engineers, by employment sector: 1999

September 2002

Support status	Employment sector							
	All sectors	University and 4-year college	Other educational institution	Private for-profit	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed in 1999 (number).....	1,333.5	1,752.9	647.5	1,636.6	831.1	789.3	885.2	590.3
Total employed in 1998 (number).....	1,358.4	1,733.6	649.1	1,661.1	830.2	777.0	880.8	587.5
					Percent			
Received government support.....	0.3	0.5	1.3	0.4	0.8	1.5	S	1.9
No government support.....	0.3	0.5	1.3	0.4	0.8	1.5	0.2	1.9

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 18a. Standard errors on Federal agencies and departments supporting work of doctoral scientists and engineers: 1999

September 2002

Federal agency or department	Standard error
Total receiving Federal Government support (number)	1,596.3
	Percent
Agency for International Development (AID)	0.1
Agriculture Department	0.3
Commerce Department	0.2
Defense Department (DoD)	0.5
Department of Education (includes NCES, OERI, FIPSE, FIRST)	0.2
Energy Department (DOE)	0.4
Environmental Protection Agency (EPA)	0.2
Health and Human Services Department (excluding NIH)	0.3
Interior Department	0.2
National Aeronautics and Space Administration (NASA)	0.3
National Institutes of Health (NIH)	0.5
National Science Foundation (NSF)	0.5
Transportation Department (DOT)	0.2
Other	0.3

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 19a. Standard errors on academically employed doctoral scientists and engineers, by field of doctorate and faculty rank: 1999

September 2002

Faculty rank	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number)	1,715.0	221.1	408.1	884.1	341.7	728.1	833.1	681.7	633.1
	Percent								
Professor	0.4	S	1.8	0.7	1.7	1.3	1.0	1.2	1.7
Associate professor	0.4	3.4	1.6	0.7	2.2	0.9	1.0	1.2	1.3
Assistant professor	0.3	3.4	1.4	0.7	1.8	0.8	0.8	1.1	0.9
Instructor, lecturer, adjunct faculty	0.2	S	S	0.4	S	0.6	0.6	0.7	0.7
Not applicable at institution	0.1	S	S	S	S	0.5	S	S	S
Not applicable for position	0.3	S	S	0.7	1.4	0.9	0.6	1.0	0.8

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 20a. Standard errors on academically employed doctoral scientists and engineers, by years since doctorate, sex, and faculty rank: 1999

September 2002

Sex and faculty rank	Total	Years since doctorate: 5 years or less	6-15 years	16-25 years	More than 25 years
Total employed in academe (number)	1,715.0	702.3	1,020.5	969.6	970.5
			Percent		
Professor	0.4	S	0.6	0.9	0.9
Associate professor	0.4	0.4	0.9	0.9	0.7
Assistant professor	0.3	0.9	0.8	0.4	S
Instructor, lecturer, adjunct faculty	0.2	0.6	0.5	0.4	0.5
Not applicable at institution	0.1	S	0.3	0.3	S
Not applicable for position	0.3	1.0	0.6	0.6	0.5
Male (number)	1,572.7	551.7	871.2	872.1	973.1
			Percent		
Professor	0.5	S	0.8	1.0	0.9
Associate professor	0.5	0.5	1.1	1.0	0.7
Assistant professor	0.4	1.3	0.9	0.4	S
Instructor, lecturer, adjunct faculty	0.2	0.8	0.5	0.5	0.4
Not applicable at institution	0.2	S	0.3	S	S
Not applicable for position	0.4	1.4	0.7	0.6	0.5
Female (number)	795.5	474.2	511.2	402.4	253.0
			Percent		
Professor	0.7	S	0.8	1.9	2.7
Associate professor	0.7	S	1.3	2.1	2.4
Assistant professor	0.7	1.3	1.3	1.0	S
Instructor, lecturer, adjunct faculty	0.5	0.9	0.9	1.0	S
Not applicable at institution	0.2	S	S	S	S
Not applicable for position	0.7	1.3	1.0	1.1	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 21a. Standard errors on academically employed doctoral scientists and engineers, by field of doctorate and tenure status: 1999

September 2002

Tenure status	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in academe (number).....	1,715.0	221.1	408.1	884.1	341.7	728.1	833.1	681.7	633.1
					Percent				
Tenured.....	0.5	3.7	1.5	0.9	2.1	1.2	0.9	1.5	1.5
On tenure track.....	0.3	3.4	1.3	0.6	1.7	0.8	0.7	1.0	1.0
Not on tenure track.....	0.3	S	1.0	0.6	1.5	0.8	0.6	0.9	0.8
No tenure system at institution.....	0.2	S	S	0.4	S	0.6	0.4	0.8	0.7
No tenure for position.....	0.4	S	0.9	0.8	1.4	1.0	0.7	1.1	1.1

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to nearest tenth. Survey of Doctorate Recipients include persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 22a. Standard errors on academically employed doctoral scientists and engineers, by years since doctorate, sex, and tenure status: 1999

September 2002

Sex and tenure of status	Years since doctorate				
	Total	5 years or less	6-15 years	16-25 years	More than 25 years
Total employed in academe (number)	1,715.0	702.3	1,020.5	969.6	970.5
			Percent		
Tenured	0.5	0.4	0.8	0.8	0.8
On tenure track	0.3	0.9	0.7	0.3	0.3
Not on tenure track	0.3	0.8	0.6	0.5	0.4
No tenure system at institution	0.2	0.4	0.4	0.5	0.4
No tenure for position	0.4	1.0	0.6	0.6	0.6
Male (number)	1,572.7	551.7	871.2	872.1	973.1
			Percent		
Tenured	0.5	S	1.0	0.9	0.8
On tenure track	0.4	1.3	0.9	0.4	S
Not on tenure track	0.3	1.0	0.6	0.5	0.4
No tenure system at institution	0.3	0.6	0.4	0.6	0.4
No tenure for position	0.4	1.4	0.7	0.7	0.6
Female (number)	795.5	474.2	511.2	402.4	253.0
			Percent		
Tenured	0.8	S	1.3	1.9	2.5
On tenure track	0.7	1.3	1.2	S	S
Not on tenure track	0.7	1.3	1.1	1.1	S
No tenure system at institution	0.4	S	0.6	S	S
No tenure for position	0.7	1.3	1.1	1.4	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 23a. Standard errors on characteristics of doctoral scientists and engineers on postdoc, by selected field of doctorate: 1999

September 2002

Demographic characteristic	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number)	600.5	434.3	419.9
		Percent	
Years since doctorate			
5 years or less	1.1	1.3	1.9
6-10 years	1.1	1.4	1.7
11-15 years	S	S	S
More than 15 years	S	S	S
Sex			
Male	1.2	1.4	2.1
Female	1.2	1.4	2.1
Race/ethnicity			
White[1]	1.4	1.7	2.2
Black	S	S	S
Asian/Pacific Islander	1.3	1.6	2.0
Hispanic	0.5	S	S
American Indian/Alaskan Native	S	S	S
Age			
34 or younger	1.4	1.8	2.5
35-44	1.4	1.9	2.3
45 or older	0.7	S	S
Citizenship status			
U.S. citizen	1.3	1.5	2.1
Non-U.S. citizen	1.3	1.5	2.1
Employment sector			
Educational institution	1.3	1.7	2.2
Business/industry	1.0	1.2	1.6
Other	0.9	1.1	1.8

[1] 'Other' race included with 'White.'

KEY: -- = Estimate is less than 0.5 percent and estimated weighted cases >=1,000.
S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 24a. Standard errors on primary reason for holding postdoc for doctoral scientists and engineers, by selected field of doctorate: 1999

September 2002

Reason	Field of doctorate		
	All fields	Biological and agricultural sciences	Other fields
Total postdocs (number)	600.5	434.3	419.9
		Percent	
Primary reason for holding postdoc			
Additional training in field	1.3	1.5	1.9
Training out of field	0.9	1.1	1.5
Work with specific person or place	1.2	1.5	2.0
No other employment available	1.0	1.3	2.0
Postdoc generally expected for career in this field	1.3	1.8	1.9
Other reason	S	S	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 25a. Standard errors on second job status of doctoral scientists and engineers, by employment sector of principal job: 1999

September 2002

Second job status and occupation	Employment sector of principal job							
	All sectors	Universities and 4-year colleges	Other educational institutions	Private for-profit	Self-employed	Private not-for-profit	Federal Government	State and local government
Total employed (number)	1,333.5	1,752.9	647.5	1,636.6	831.1	789.3	885.2	590.3
	Percent							
Held second job	0.2	0.4	1.5	0.3	1.2	1.2	0.7	1.7
No second job	0.2	0.4	1.5	0.3	1.2	1.2	0.7	1.7
Total holding second job (number)	1,342.3	893.0	336.1	588.9	396.6	375.8	269.6	291.7
Occupation of second job								
	Percent							
Science and engineering occupations	0.9	1.2	2.9	2.1	3.5	3.0	3.9	3.3
Computer and information scientists	0.4	0.5	S	1.0	S	S	S	S
Mathematical scientists	0.3	0.5	S	S	S	S	S	S
Life and related scientists	0.5	0.7	S	S	S	S	S	S
Physical and related scientists	0.4	0.6	S	1.1	S	S	S	S
Social and related scientists	0.6	0.9	S	S	S	S	S	S
Psychologists	0.6	0.9	3.0	1.4	3.2	3.1	S	3.7
Engineers	0.4	0.7	S	1.2	S	S	S	S
Non-science and engineering occupation	0.9	1.2	2.9	2.1	3.5	3.0	S	S
Top/mid-level managers, administrators, etc.	0.4	0.6	S	S	S	S	S	S
Other non-S&E occupations	0.9	1.2	3.0	2.0	3.5	3.0	S	S

KEY: S = Suppressed due to too few cases (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institutions and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 26a. Standard errors on relationship of work on second job and doctoral degree by doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Relationship	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total holding second job (number).....	1,342.3	235.4	603.4	271.7	469.0	545.4	552.7	381.2
	Percent							
Closely related.....	0.8	4.3	2.1	3.4	2.5	2.1	1.2	2.2
Somewhat related.....	0.7	4.0	1.8	3.3	2.1	1.8	1.0	1.9
Not related.....	0.6	S	1.6	S	2.3	1.3	0.7	1.7

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institutions and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 27a. Standard errors on employment changes in doctoral scientists and engineers since 1997, by field of doctorate: 1999

September 2002

Employment change	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total employed in 1999 (number)	1,333.5	345.9	635.2	220.3	588.4	603.2	422.7	618.4
	Percent							
Not employed in 1997	0.1	0.4	0.2	S	0.3	0.3	0.3	0.3
No change since 1997	0.3	1.0	0.5	1.3	0.7	0.7	0.7	0.7
Change in employer and job	0.2	0.6	0.4	0.9	0.5	0.5	0.5	0.5
Change in employer only	0.1	0.7	0.3	0.8	0.4	0.4	0.4	0.4
Change in job only	0.2	0.5	0.3	0.8	0.5	0.5	0.4	0.4

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institutions and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 28a. Standard errors on reasons for changing employer and/or job since 1997 for doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Reasons	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total changing employer and/or job (number)	1,503.9	343.5	677.4	243.0	658.0	553.3	501.1	628.1
	Percent							
Pay or promotion opportunities	0.7	2.4	1.3	3.5	1.4	2.1	1.8	1.4
Working conditions	0.6	2.1	1.1	3.4	1.3	1.9	1.9	1.3
Job location	0.6	2.4	1.2	3.0	1.3	1.8	1.5	1.2
Change in career	0.6	2.2	1.3	3.0	1.5	2.0	1.7	1.4
Family-related reasons	0.4	S	0.9	S	1.0	1.4	1.6	0.9
School-related reasons	0.3	1.8	0.8	S	0.8	1.1	1.1	0.9
Laid off/job terminated	0.5	2.2	1.0	S	1.2	1.5	1.5	1.2
Retired	0.3	S	S	S	0.7	S	S	0.8
Other reason	0.3	S	0.5	S	0.7	1.1	S	0.6

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institutions and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 29a. Standard errors on professional society or association membership of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Number of memberships	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	732.2	126.8	235.9	390.5	110.7	341.3	440.6	209.1	323.6
					Percent				
None	0.2	2.2	1.1	0.5	1.0	0.5	0.7	0.5	0.6
One	0.2	1.9	1.2	0.5	1.1	0.6	0.6	0.7	0.6
Two	0.3	2.2	1.2	0.5	1.2	0.6	0.7	0.7	0.7
Three	0.2	1.6	1.1	0.5	1.3	0.5	0.7	0.6	0.5
Four or more	0.2	1.3	1.0	0.5	1.5	0.5	0.7	0.7	0.6

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 30a. Standard errors on work-related training activities of doctoral scientists and engineers, by field of doctorate: 1999

September 2002

Training areas and reasons for taking training	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total (number)	732.2	242.3	390.5	110.7	341.3	440.6	209.1	323.6
				Percent				
Taken work-related training	0.3	1.2	0.6	1.4	0.7	0.8	0.7	0.7
No work-related training	0.3	1.2	0.6	1.4	0.7	0.8	0.7	0.7
Total taking training (number)	1,872.6	463.9	1,014.5	317.5	858.3	713.6	655.5	734.7
				Percent				
Type of training:								
Management/supervisor training	0.3	1.5	0.8	1.6	0.9	1.1	0.7	0.9
Training in occupational field	0.3	1.5	0.6	1.2	0.8	1.0	0.5	0.8
General professional training	0.4	1.4	0.6	1.5	0.8	1.1	0.6	0.9
Other work-related training	0.2	1.0	0.5	0.9	0.5	0.7	0.5	0.6
Most important reasons for taking training:								
To change occupational field	0.1	S	S	0.6	0.4	0.5	0.3	0.3
Further skills in occupational field	0.4	1.6	0.7	1.6	0.9	1.1	1.0	1.0
Licensure/certification	0.2	S	0.4	1.2	0.3	0.4	0.8	0.3
Increase opportunities	0.2	S	S	0.6	0.4	S	0.2	0.5
Learn skills for new position	0.2	0.8	S	0.7	0.5	0.5	0.3	0.6
Required or expected by employer	0.2	0.9	S	0.7	0.7	0.6	0.3	0.6
Other reasons	0.2	S	S	0.6	0.3	0.6	0.3	0.3

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients.

Table 31a. Standard errors on most important resource used and length of time taken to find first career path job for recent doctoral recipients, by field of doctorate, 1999

September 2002

Resource and length of time	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients holding a career path job (number)	407.2	158.7	270.4	113.7	203.7	193.6	188.9	249.0
					Percent			
Most important job search resource:								
Faculty or advisor	1.0	S	2.0	S	2.4	2.7	S	2.1
Informal channels through colleagues or friends	1.1	S	1.9	S	2.4	2.5	2.8	1.9
Professional meetings and/or journals	0.8	S	1.7	S	2.1	2.7	S	1.5
Other resource [1]	1.1	4.3	2.2	S	2.7	3.3	3.0	2.4
Length of time between completion of first doctoral degree and first career path job:								
Less than 1 month [2]	0.9	3.0	2.2	4.0	2.4	2.8	2.8	1.8
1-6 months	0.9	S	1.8	S	2.0	S	2.4	1.7
7-12 months	0.5	S	S	S	S	S	S	S
More than 12 months	0.4	S	S	S	S	S	S	S

[1] 'Other resource' includes professional recruiter, college/department placement office, electronic postings, newspapers, direct contact with company, and other.

[2] Includes those who already held a career path job before completion of doctoral degree.

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 32a. Standard errors on factors that somewhat or greatly limited career path job search by recent doctoral recipients, by field of doctorate: 1999

September 2002

Factors limiting career path job search	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients seeking or holding a career path job (number)	407.2	158.7	270.4	113.7	203.7	193.6	188.9	249.0
	Percent							
Factors that somewhat or greatly limited career path job search:								
Family responsibilities	1.0	4.1	2.3	S	2.6	3.0	2.9	2.3
Spouse's career or employment	1.0	4.0	2.1	S	2.6	3.1	2.9	2.1
Debt from undergraduate or graduate degree(s)	0.8	S	1.7	S	S	S	2.8	1.5
Desire to not relocate	1.1	4.5	2.1	S	2.5	3.0	3.2	2.1
Suitable job not available	1.0	S	2.1	S	2.7	3.0	3.1	2.3
Other	0.5	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 33a. Standard errors on areas of training in which recent doctoral recipients thought their doctoral program had somewhat or very adequately prepared them for a career, by field of doctorate: 1999

September 2002

Areas of doctoral training	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	196.5	73.8	107.9	206.6	97.9	183.7	181.5	164.4	215.8
					Percent				
General problem solving skills	0.3	2.1	1.4	0.7	1.8	0.5	1.4	1.1	0.4
Subject matter knowledge	0.3	1.6	2.5	0.6	1.5	1.0	1.5	0.9	0.6
Oral communication skills	0.6	3.2	3.5	1.0	2.3	1.6	2.2	1.4	1.4
Teaching skills	0.9	5.6	4.4	1.9	3.8	2.1	2.6	2.3	2.0
Collaboration and teamwork skills	0.8	5.0	4.2	1.5	3.0	1.9	2.6	2.0	1.7
Quantitative skills	0.5	3.0	2.9	1.0	2.2	1.0	2.1	1.5	0.7
Writing skills	0.5	2.6	4.3	1.2	1.4	1.2	1.6	0.8	1.0
Computer skills	0.6	2.1	3.6	1.5	2.6	1.5	2.1	2.3	1.0
Research integrity/ethics	0.5	3.4	3.2	1.0	1.6	1.0	1.3	1.0	1.0
Establishing contacts with colleagues in field	0.9	4.1	4.6	1.7	2.7	2.0	2.2	2.3	1.8
Management or administrative skills	1.0	S	S	2.0	4.6	2.5	3.0	3.0	2.0

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 34a. Standard errors on first area of the doctoral program in which recent doctoral recipients would have liked more training, by field of doctorate: 1999

September 2002

Doctoral program area	Field of doctorate							
	All fields	Computer and mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	196.5	133.4	206.6	97.9	183.7	181.5	164.4	215.8
Additional training desired (number)	359.3	148.1	249.8	113.9	223.2	214.0	175.4	260.0
				Percent				
General problem solving skills	0.4	S	S	S	S	S	S	S
Subject matter knowledge	0.6	S	S	S	S	S	S	S
Oral communication skills	0.6	S	S	S	S	S	S	S
Teaching skills	0.8	S	1.6	S	S	2.9	2.5	S
Collaboration and teamwork skills	0.5	S	S	S	S	S	S	S
Quantitative skills	0.5	S	S	S	S	S	S	S
Writing skills	0.6	S	S	S	S	S	S	S
Computer skills	0.7	S	1.6	S	S	S	S	S
Research integrity/ethics	S	S	S	S	S	S	S	S
Establishing contacts with colleagues in field	0.8	S	1.4	S	2.2	S	S	1.8
Management or administrative skills	0.9	S	1.6	S	2.0	S	2.5	2.1

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients

Table 35a. Standard errors on level of overall satisfaction with doctoral program by recent doctoral recipients, by field of doctorate: 1999

September 2002

Level of overall satisfaction with doctoral program	Field of doctorate								
	All fields	Computer and information sciences	Mathematical sciences	Biological and agricultural sciences	Health sciences	Physical and related sciences	Social sciences	Psychology	Engineering
Total recent doctoral recipients (number)	196.5	73.8	107.9	206.6	97.9	183.7	181.5	164.4	215.8
					Percent				
Very satisfied	0.9	S	5.1	1.8	4.1	2.4	3.0	2.8	1.9
Somewhat satisfied	0.9	S	S	1.8	S	2.2	2.9	2.6	1.9
Very or somewhat dissatisfied	S	S	S	S	S	S	S	S	S

KEY: S = Suppressed due to too few cases in the estimate (fewer than 1,000 weighted cases).

NOTES: Standard errors are rounded to the nearest tenth. Survey of Doctorate Recipients includes persons who had earned a science and engineering research doctorate from an U.S. institution and resided in U.S. as of April 1999.

SOURCE: National Science Foundation/Division of Science Resources Statistics, 1999 Survey of Doctorate Recipients